

5. (Twice Amended) The integrated circuit of claim 2 wherein said visual display element comprises an array of semiconductor pixels having [diameter] pitch dimensions of less than 20 micrometers.

6. (Twice Amended) The integrated circuit of claim 3 wherein said visual display element comprises an array of semiconductor pixels having [diameter] pitch dimensions of less than 20 micrometers.

REMARKS

The Applicant's representative has carefully reviewed and considered the Office Action mailed on January 15, 2002, and the references cited therewith. Claims 1 and 4-6 are amended, no claims are canceled, and no claims are added; as a result, claims 1-7 are now pending in this application.

§112 Rejection of the Claims

Claims 4-6 have been rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 4-6 have been amended to clarify that the dimension of "20 micrometers" therein refers to a pitch, and not a diameter, as detailed in the specification, page 7, lines 5-6. It should be noted that no new matter has been added, and that claims 4-6 have been amended to be consistent with the text of the specification, and not for reasons related to patentability.

Claim 7 was rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Considering the amendment to claim 1, it is believed the concerns expressed in the Office Action are now moot, and claim 7 has not been amended

§102 Rejection of the Claims

Claims 1 and 7 have been rejected under 35 USC § 102(b) as being anticipated by Marsh (U.S. 5,471,405). However, the MPEP requires that "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." See M.P.E.P. § 2131. Because the Applicant asserts that the Office has failed to show that Marsh discloses the identical invention claimed, the Applicant respectfully traverses this rejection of the claims.

Marsh fails to disclose the element of a "support substrate supporting a sensor element, a logic circuit, and a semiconductor visual display element" as claimed by the Applicant in amended independent claim 1 (from which claims 2-7 depend). While asserting the existence of such an element in the Office Action (see Office Action, "Claim Rejections - 35 USC § 102", "... comprising a support substrate (10) supporting a sensor ..."), the language in Marsh does not define a substrate of any type whatsoever. In fact, element 10 is a running shoe, not a substrate. However, to clarify the meaning of the term substrate, claim 1 has been amended to designate a "semiconductor support substrate", as noted in the specification, page 8, lines 6-13. Since the Applicant believes that no such "semiconductor support substrate" element exists within the bounds of Marsh, claim 1 (and dependent claims 2-7) should be allowable over this reference. It should be noted that no new matter has been added, and that claim 1 has been amended to clarify that a substrate is a semiconductor substrate, and not for reasons related to patentability.

§103 Rejection of the Claims

Claims 2-6 were rejected under 35 USC § 103(a) as being unpatentable over Marsh (U.S. 5,471,405) in view of Ogihara et al. (U.S. 6,222,208 B1). The Applicant respectfully traverses this rejection.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). In combining prior art references to construct a *prima facie* case, the Examiner must show some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art that would lead an individual to combine the relevant teaching of the references. *Id.* The M.P.E.P. contains explicit direction to the Examiner that agrees with the *In re Fine* court:

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaack*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

While it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching. (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 U.S.P.Q.2d (BNA) 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 U.S.P.Q. (BNA) 171, 174 (C.C.P.A. 1979)). The requirement of a suggestion or motivation to combine references in a *prima facie* case of obviousness is emphasized in the Federal Circuit opinion, *In re Sang Su Lee*, 277 F.3d 1338; 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002), which indicates that the motivation must be supported by evidence in the record.

The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. (BNA) 543, 551 (Fed. Cir. 1985). References must be considered in their entirety, including parts that teach away from the claims. See § MPEP 2141.02.

In this case, neither of the references discloses a substrate supporting a sensor, logic circuit, and display. Further, there is no evidence in the record supporting a motivation to combine the references. Finally, combining the references would destroy the intended purpose of the invention, and the references teach away from such a combination.

First, neither reference discloses a "substrate" supporting the combination of a display, logic element, and sensor, as claimed by the Applicant.

Second, to supply the admitted defect of Marsh (i.e., the failure to teach a visual display comprising an array of pixels), the Office Action states "it would have been obvious to ... modify Marsh to use GaAs LEDs as display devices ... [to provide] a high precision and bright display" by combining Marsh with Ogihara et al. However, Ogihara et al. provides no discussion whatsoever to combine a diode or diode array with any other component. In fact, such a combination destroys the purpose of Marsh, as the sensor of Marsh is mounted in the sole of a running shoe (noted in numerous places, e.g., Marsh, Col. 4, line 6-7; Col. 5, lines 1-2, etc.), while the display is mounted on top of the shoe, or to the user's wrist. (Marsh, Col. 5, lines 30-36). Mounting the display of Ogihara et al. integrally with the sensor of Marsh would not form an operable unit, since the display would not be visible, and/or would be crushed under the foot of the user. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed invention. *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), and M.P.E.P. § 2143.01. Since there is no support to combine the references in the record, the requirements of *In re Sang Su Lee* are not satisfied.

Finally, Marsh teaches away from combining the references. Simply adding a GaAs display to the Marsh apparatus would provide the opposite effect to that desired. That is, instead of having a substrate which supports the sensor, logic circuit, and display, the display would be far removed from the other elements. In fact, Marsh notes that the separation is bridged by a wireless communication system, encouraging further separation of the sensor and display. (Marsh, Col. 6, lines 10-14). This is the antithesis of a unitary assembly.

Since there is no motivation to combine the references, since there is no reasonable expectation of success if the references are combined, and since such a combination fails to teach all of the claimed elements, a *prima facie* case of obviousness has not been established and claims 2-6 should be allowable over the combination of Marsh and Ogihara et al.

AMENDMENT & RESPONSE UNDER 37 C.F.R. § 1.116 - EXPEDITED PROCEDURE

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Title: INTEGRATED CIRCUIT WITH UNIFIED INPUT DEVICE, MICROPROCESSOR AND DISPLAY SYSTEMS

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Conclusion

The Applicant respectfully submits that the claims are in now condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone the undersigned or the Applicant's attorney, **Mark Muller, at 210-308-5677** to facilitate prosecution of this application. The Examiner is also requested to please note that all future correspondence in this matter is to be directed to the undersigned, at the address below. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-0439.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Box AF, Commissioner of Patents, Washington, D.C. 20231, on this 28 day of March, 2002.

Candis B. Buending

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Signature

